

# Circuit Analysis Tools (CAT) BAA Questions

| #   | Question   | Answer  | Date Posted |
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| 001 | The Fast Imaging Tool die level front side delayering Phase 1 metric specifies Manual Method. Is an automatic method acceptable?   | Yes.  | 9/21/09     |
| 002 | What are the government funding rules for this research - acceptable pay rates, overheads etc.?  | Section 4.B.2. in Volume 2: Cost Proposal of IARPA-BAA-09-09 identifies in detail what information a cost proposal shall contain. Per BAA Section 5.A.5, offerors should propose rates that realistically represent the costs they expect to incur and shall follow the applicable rules and regulations governing the various award instruments. Those offerors selected for award may be audited by DCAA (the Defense Contract Audit Agency). | 9/21/09     |
| 003 | The Fault Isolation Front Side Analysis Metric for probing is 13 vs. 6 for state-of-the-art. What is driving the requirement for 13 probes?  | 13 probes will provide a fuller characterization of all the transistors in an SRAM cell.  | 9/21/09     |
| 004 | What is driving the backside thinning requirements for Fault Isolation?  | Backside thinning metrics are based on the backside thinning that may be required for Fault Isolation techniques projected to be used by offerors. If an offeror proposes a Fault Isolation technique that has a different backside thinning requirement, they may propose different backside thinning metrics.   | 9/21/09     |
| 005 | What is the purpose of fast imaging? Is this for the situation in which fault localization is inadequate or only marginally adequate that an interactive layer-by-layer high-resolution fast imaging approach over a relatively large area on extremely flat samples is an alternative and/or supportive approach? | The CAT program goal for fast imaging is based on the government's requirement to evaluate commercial circuits for use in government systems. As with the other CAT program technical goals, there are also applications to fault isolation, failure analysis, and debug.   | 9/21/09     |
| 006 | Would a two-tier strategy for the area 'Fault Isolation' be inside the scope of the  | Yes, a two-tiered strategy would be within the scope of the BAA.  | 9/21/09     |

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|     | IARPA-BAA-09-09, for example, a 'course-grained' method to determine the 'layout region(s)' occupied by a defect (10's micron level of resolution) followed by a fine-grained method based on an advanced microscopy method to precisely locate and image the defect? |  |             |
| 007 | Would you please provide details on how the "White Paper" should be submitted. The details provided in BAA (page 30, Sec 4.C) reference Full Proposal submission and say very little on how and what should be included in the white paper.                           | White paper format is described in Section 4.A.2 on pages 19 and 20 of the BAA. White Paper submission instructions are the same as for a full proposal as addressed in Section 4.C.2 on page 30.  | 9/21/09     |
| 008 | Our concept to address the Fast Imaging Tools Thrust would probably require a very large sum of money. Does a proposal of this magnitude fit within your envelope?  | The CAT program does not have a specific budget. Offerors should base their proposals on what they feel is necessary to meet the program goals.  | 9/21/09     |
| 009 | Will the proposal submission address listed in the BAA accept deliveries via regular mail from the United States Postal Service?  | No. As stated in Section 4.C.2 of the BAA, "Deliveries must be made using one of the following commercial delivery services: UPS, FedEx or DHL."   | 9/23/09     |
| 010 | Can you please provide the DFARS clause that will be associated with this BAA - 252.204-7008 or 252.204-7009?   | DFARS Clause 252.204-7009 would apply to contracts resulting from IARPA BAA-09-09. It states that the government does not expect access to export-controlled items by contractors during performance of the contract but puts contractors on notice to notify the government immediately if they become aware that they will need access to or generate export-controlled items. | 11/9/09     |
| 011 | The BAA says funds will be disbursed after April 1, 2010. If a proposal is approved before that can the project start and funds be disbursed before April 1?  | April 2010 is an expectation based on the necessary steps in the source selection and contracting process. Contracting could be completed sooner or later based on many factors.   | 11/9/09     |
| 012 | Our proposal will require purchase of capital items to build a prototype system - is there funding to cover capital   | Costs associated with equipment, materials, and/or capital purchases that will be leveraged by the offeror for activities/projects extending outside of  | 11/9/09     |

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|     | purchases? Is there standard practice in this area such as cost sharing etc?   | CAT should be proposed in accordance with their disclosed accounting practices (typically as an indirect expense in the form of an overhead rate). While it is the responsibility of the offeror to propose an overarching pricing strategy, cost sharing is a potential strategy that is permitted under the CAT BAA.                                      |             |
| 013 | If a prototype system is built as part of the project, who has ownership of the system after the project is complete?  | Unless the offeror has proposed terms/conditions indicating otherwise, IARPA shall incorporate contract clauses granting IARPA ownership rights to all prototypes developed using Government funds.   | 11/9/09     |
| 014 | I understand that the CAT Program manager will be presenting technical talks at the ISTFA conference which I cannot attend. Can I get copies of his slides?  | Dr. Vanderlinde's ISTFA presentations are not intended to provide guidance regarding the BAA. However, they will be posted to the CAT website.  | 11/9/09     |
| 015 | The thrust area "Fast Imaging" refers to tools capable of imaging one die of 1 square cm. Are you supplying a full wafer (200mm or 300mm ?) or a small piece of silicon.   | Test chips for the Fast Imaging thrust will be individual die.  | 12/2/09     |
| 016 | Does the prototype in Phase II need to comply with SEMI standards?   | The Phase II prototype does not need to comply with SEMI standards. However, SEMI standards are something the offeror may wish to address in their commercialization plan (BAA p. 32).  | 12/2/09     |
| 017 | The BAA-09-09 website has a link to "download Academic Institution Acknowledgement Letter Template". This letter appears to be different from a transmittal letter. Does IARPA have a template to be used for a transmittal letter from an academic institution? | All proposals must include an "Academic Institution Acknowledgement Letter" from each academic institution involved in a proposal as the prime contractor or subcontractor. While there is no specific template for the transmittal letter, it is to be considered a free-form cover letter for the entire proposal from the offeror as addressed to IARPA. | 12/2/09     |
| 018 | We have a question about the consistency between the metrics in Table 2 under Back-side Analysis Sub-thrust,   | The resolution differences between the Fault Isolation Thrust 2 (Back-side FI) and Logic Analysis Thrust relate to the  | 12/2/09     |

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|     | <p>Localization of current, etc., Resolution (Lateral) which lists 150nm and 80nm at Phase I (22nm node) and Phase II (11nm node) respectively, versus the metrics in Table 3 under Logic Analysis, Static and dynamic logic state mapping, Lateral Resolution which lists 90nm and 45nm at Phase I (22nm node) and Phase II (11nm node) respectively. We would expect these numbers to be identical, and agree with the ones listed in Table 2, and would like to receive confirmation of this understanding.</p>  | <p>larger working distance for the Fault Isolation Thrust (Back-side FI) with die level sample preparation, vs. the desire to isolate individual transistors using local thinning in the Logic Analysis Thrust. Offerors may modify these metrics in their proposals if they provide a valid reason to do so.</p>   |             |
| 019 | <p>"1.B Technical Objectives and Metrics for Each Thrust... Therefore proposals should be designed to demonstrate the technical objective metrics on 22 nm test parts and to demonstrate scalability down to 11 nm...The test chips will be developed as appropriate for the proposed technologies that are ultimately selected for funding under the CAT program..."</p> <p>The chart Table 2, however, contains a section entitled "Back-side Analysis Sub-Thrust" in which it lists the metric for Phase 1 as 150 nm and for Phase 2 as 80 nm. Should we understand from this that the test chips for this particular Sub-thrust will actually contain 150 nm and 80 nm features, and that resolving these (or smaller) will be considered successful completion of the corresponding phase?</p> | <p>The Backside Analysis sub-thrust metrics for lateral resolution are not the same as the technology node minimum feature size. "Localization" refers to the ability to identify the faulty transistor associated with a particular current or signal. The CMOS technology node was traditionally define by the transistor physical gate length, although recently the node has been defined by features such as DRAM metal-1 half-pitch or more complex scaling considerations. Thus for 22nm node technology the minimum feature size will be approximately 22nm, but a faulty transistor will be at least several minimum feature size lengths away from the next nearest transistor. Therefore 150nm resolution may be sufficient to localize the fault to a given transistor at the 22nm node. In any case, as stated in the BAA (Section 1.B), offerors should propose technology that represents a significant advancement over current state-of-the-art.</p> | 12/7/09     |
| 020 | <p>We have a subcontractor who wants to send their financial details separately from the proposal for their internal confidentiality. Will this be OK? My understanding is that they will provide the</p>   | <p>The complete proposal must be submitted as one package per the proposal delivery instructions in the BAA. If a subcontractor wishes to keep their financial details confidential, they</p>   | 12/7/09     |

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|     | higher level financial information for the proposal. We'll need to make sure that there is a correlation to the Proposal name, etc in what they send so IARPA can properly associate it with the Proposal.  | may provide it to the prime offeror in a sealed envelope which the prime then encloses with the full proposal. The proposed sub-contractor's cost data must be submitted in accordance with the delivery instructions in the BAA; i.e. two hardcopies and an electronic file on CD. |             |
| 021 | The work program for phase 2 is rather complex and detailed - and takes multiple pages to layout. Could we put a short summary in the 30 pages document - and add the detailed program in the appendix?   | No, the statement of work must conform to the 30 page limit for Volume 1.   | 12/7/09     |
| 022 | The BAA specifies a page limit of 30-pages for the Technical/Management Volume. However, it later says that Sections J (Facilities), K (Commercialization Plan), L (References), and M (Definitions) are to be included as attachments. Do the pages allocated to those sections count as part of the Tech/Management 30-page limit? That is, is the 30 page limit for the proposal through Section I, inclusive, or for the proposal through Section M (with an effective page limit of 26 pages for the proposal up through Section I)? | Per the BAA p. 21, Section 2 items J (Facilities), K (Commercialization Plan), L (References), and M (Definitions) are to be included as attachments that do NOT count against the 30 page limit.   | 12/7/09     |
| 023 | IARPA will interface solely with the prime organization, correct? If so, any other organizations included should report to the prime and this in turn will be responsible for compiling all information from all organizations to build up the monthly technical reports and financial status reports, quarterly progress reports and detailed annual report. Is this correct?  | If a proposal is selected for award, the government will negotiate with the prime offeror and the prime will be responsible for all reporting and billing for work done by the prime and all sub-contractors.   | 12/7/09     |
| 024 | Are any other organizations/personnel other than the prime organization required to attend the ISTFA workshop or any other meetings? Who from the prime organization is expected to attend the workshop and meetings? Just the  | The prime is responsible for sending a minimum of one person to each program workshop and program review. That person must be sufficiently conversant with the information being briefed to conduct a clear presentation and answer relevant  | 12/7/09     |

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|     | PI/technical point of contact for the project?  | questions. Sub-contractors may attend and brief if the prime feels their presentation would be informative and relevant.   |             |
| 025 | The prime organization is subject to auditing by the DCAA. What about any other organizations participating in the proposal?  | All organizations submitting cost data to the government are subject to DCAA audit.  | 12/7/09     |
| 026 | The BAA refers to different organizations participating in the project and also to sub-contracts. Is any non-prime organization to be considered a sub-contractor or is there any difference?                                   | All non-prime organizations are considered to be sub-contractors of the prime offeror.   | 12/7/09     |
| 027 | Are there any guidelines for overhead rates and allowed fees for the cost proposal?   | See Question 2.  | 12/7/09     |
| 028 | Regarding the payment schedule, is it acceptable to have a monthly billing cycle linked to the monthly technical report and financial status report?  | Monthly billing is acceptable. Details will be negotiated by the Contracting Agent after the selections of proposals to be negotiated for contract award have been announced.  | 12/7/09     |
| 029 | For a proposal joined by several organizations, will each organization get their own funds according to the cost proposal or is the prime organization in charge of distributing the funds to the different organizations?      | If a proposal is selected for award, the government will negotiate with the prime offeror and the prime will be responsible for all reporting and billing for work done by the prime and all sub-contractors. Thus the prime is responsible for distributing funds to the sub-contractors. | 12/7/09     |
| 030 | For a proposal joined by several organizations, who is responsible for the inventory of any purchases under the project funds? Individual organizations or is it the prime organization responsible for inventory and tracking? | The prime is responsible for maintaining an inventory list and reporting it to the government, however they may task the sub-contractor to provide that information to them as part of the sub-contract requirements.  | 12/7/09     |
| 031 | With regard to the IARPA BAA-09-09 is it OK to request seedling funding? I believe this was mentioned at the April 09 workshop and at the July 09 Proposers Day, but it is not in the BAA.                                      | Seedlings are exploratory 6 to 12 month efforts intended to evaluate promising new research areas that might develop into full programs. Seedlings are not a part of IARPA-BAA-09-09 which has well-defined goals and metrics. There was an  | 12/7/09     |

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IARPA-wide BAA (IARPA-BAA-09-04) for exploratory seedlings which closed on 30 September 2009. There may be a new IARPA-wide BAA for exploratory seedlings in FY10, but that has not yet been announced.